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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/553,810	04/21/2000	H. Donald Wilson	WILSONLESSAC	6936

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EXAMINER

AZAD, ABUL K

ART UNIT	PAPER NUMBER
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2654

DATE MAILED: 08/24/2004

27

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/553,810

Applicant(s)

WILSON ET AL.

Examiner

ABUL K. AZAD

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 30-34,36 and 38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 30-34,36 and 38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This action is in response to the communication filed on June 28, 2004.
2. Claims 30-34, 36 and 38 are pending in this action. Claims 30, 33 and 38 have been amended. Claims 1-29, 35, 37 and 39 have been canceled.
3. The applicant's arguments with respect to claims 30-34, 36 and 38 have been fully considered but they are not deemed to be persuasive. For examiner's response to the applicant arguments or comments, see the detailed discussion in the Response to the Arguments section.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 30, 31, 33, 36 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minematsu (US 6,249,763) in view of Shpiro (US 5,766,015).

As per claim 30 Minematsu teaches, "a method of speech recognition using a microphone to receive audible sounds input by a user into a computing device coupled to said microphone (col. 7, lines 55-67, reads on "computer 1" and "input/output device includes a microphone"), said computing device having a program with database

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information (col. 8, lines 56-67, particularly reads on “the software includes a speech recognition program as an application”) comprising (i) digital representations of known audible sounds corresponding to proper pronunciations of phonemes and associated alphanumeric representations of said known audible sounds corresponding to proper pronunciations of phonemes forming a first database and (ii) digital representations of known audible sounds corresponding to mispronunciations, forming a second database (col. 9, line 64 to col. 10, line 7, “forming a first database” reads on “a candidate word generation part” and “forming a second database” reads on “an analogous word adding part”) comprising the steps of:

generating said database information by (ii) “having a different person who usually speaks said known audible sounds corresponding to mispronunciations and digitizing said known mispronounced audible sounds spoken by said person who usually speaks said known mispronounced audible sounds corresponding to mispronunciations to form a second database” (col. 11, lines 8-61, an analogous word data record correspond to mispronunciation is a second database);

“receiving said audible sounds in the form of an electrical output of said microphone receiving speech to be recognized” col. 8, line 1, reads on “the input device 120 includes a microphone 122”);

“converting said electrical output corresponding to a particular audible sound into a digital representation of said particular audible sound to be recognized” (col. 13, lines 1-27, reads on “vector data generating part 160 and label generating part”);

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“comparing said digital representation of said particular audible sound to be recognized to said digital representations of said known audible sounds in said first and second databases to determine a match with the one of said known audible sounds most likely to be the particular audible sound to be recognized being compared to the sounds in said database” (col. 21, line 30 to col. 22, line 28); and

“outputting as a speech recognition output the alphanumeric representations associated with said audible sound most likely to be said particular audible sound” (col. 22, lines 6-28, particularly reads on “text data corresponding to respective entries of the correction information index inputted from control part are placed in positions (a) to (e) shown in Fig. 19).

Minematsu teaches a proper correct pronunciation word database known as candidate word part (col. 11, lines 11-26) and digitizing said proper pronounced known audible sound to form a database (col. 13, lines 2-12); but does not explicitly teach having a person, who normally speaks said known audible sounds properly to create a database of correct proper pronunciation. However, Shpiro teaches, having a person, who normally speaks said known audible sounds properly to create a database of correct proper pronunciation (col. 4, lines 1-46, particularly reads on “expected audio response reference database”). Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention to create a database of correct proper pronunciation using a person’s speech who speak the language properly because the invention would indicate type of pronunciation error based on the error an interactive

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language training is provided to the user to improve the proper pronunciation of language (col. 1, lines 27-33).

As per claim 31, Minematsu teaches, "outputting an error indication in response to a match with a known audible sound corresponding to a known mispronunciation" (col. 21, line 30 to col. 22, line 28); and

"in response to a determination of error corresponding to a known mispronunciation, presenting an interactive training program from said computing device to said user to enable said user to correct such mispronunciation" (col. 22, lines 6-28).

As per claim 33, Minematsu teaches, "outputting an error indication in response to a match with a known audible sound corresponding to a known mispronunciation" (col. 21, line 30 to col. 22, line 28); and

"in response to the detection of repeated instances or a reliable single instance, of pronunciation error presenting an interactive training program from said computer to said user to enable said user to correct such mispronunciation" (col. 18, line 53 to col. 19, line 9, particularly reads on "it is meant that the pronunciation by the user approaches a native speaker and as correct as it can be recognized with a high recognition rate even using a conventional speech recognition apparatus other than this invention. Conversely, if an analogous word is selected, it is meant that the speaker's pronunciation contains some error or an obscurity How the pronunciation is wrong

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and how the speaker should pronounce in order to pronounce correctly when the word intend by the user is recognized as an analogous word”).

As per claim 36, Minematsu teaches, “wherein said user is presented with an interactive training program in response to the detection of repeated instances or a reliable single instance of pronunciation error” (col. 18, line 53 to col. 19, line 9, particularly reads on “it is meant that the pronunciation by the user approaches a native speaker and as correct as it can be recognized with a high recognition rate even using a conventional speech recognition apparatus other than this invention. Conversely, if an analogous word is selected, it is meant that the speaker’s pronunciation contains some error or an obscurity . . . How the pronunciation is wrong and how the speaker should pronounce in order to pronounce correctly when the word intend by the user is recognized as an analogous word”).

As per claim 38, Minematsu teaches, “a method of speech training using a microphone to receive audible sounds to be recognized input by a user into a computing device coupled to said microphone (col. 7, lines 55-67, reads on “computer 1” and “input/output device includes a microphone”), said computing device having a program with database information (col. 8, lines 56-67, particularly reads on “the software includes a speech recognition program as an application”) comprising (i) digital representations of known audible sounds corresponding to proper pronunciations of phonemes and associated alphanumeric representations of said known audible sounds

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corresponding to proper pronunciations of phonemes forming a first database and (ii) digital representations of known audible sounds corresponding to mispronunciations of phonemes and associated alphanumeric representations of said known mispronounced audible sounds corresponding to improper pronunciations of phonemes, forming a second database" (col. 9, line 64 to col. 10, line 7, "forming a first database" reads on "a candidate word generation part" and "forming a second database" reads on "an analogous word adding part")" comprising the steps of:

"receiving said audible sounds in the form of an electrical output of said microphone" (col. 8, line 1, reads on "the input device 120 includes a microphone 122");

"converting said electrical output corresponding to a particular audible sound into a digital representation of said particular audible sound" (col. 13, lines 1-27, reads on "vector data generating part 160 and label generating part");

"comparing said digital representation of said particular audible sound to said digital representations of said known audible sounds in said first and second databases to determine a match with the one of said known audible sounds most likely to be the particular audible sound being compared to the sounds in said database" (col. 21, line 30 to col. 22, line 28, where input speech is compared with stored analogous word as well as stored candidate word to get the target word); and

"in response to a determination of error corresponding to a known type or instance of mispronunciation, giving the user the option of receiving speech training or training said program to recognize the user's speech pattern" (col. 22, lines 30-66, reads

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on "correction program" and also from col. 15, lines 5-40 teaches to adding analogous word in the database of user's speech pattern); and

"in response to exercise of said option, presenting an interactive training program from said computing device to said user to enable said user to correct such mispronunciation" (col. 22, lines 6-28).

As per claim 38, Minematsu teaches to create a database of digital representation of mispronunciation created by a person other than a native speaker (col. 11, lines 27-61, reads on analogous word), but does not explicitly teach, "digital representations of known audible sounds corresponding to mispronunciations is formed by a person, who normally speaks said known audible sounds properly, speak said known audible sounds, and digitizing said known audible sounds spoken by said person who properly speaks said known audible sounds". However, Shpiro teaches, "digital representations of known audible sounds corresponding to mispronunciations is formed by a person, who normally speaks said known audible sounds properly, speak said known audible sounds, and digitizing said known audible sounds spoken by said person who properly speaks said known audible sounds" (col. 4, lines 1-46). Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention to create a database correspond to mispronunciation using a person's speech who speak the language properly because the invention would indicate type of pronunciation error based on the error an interactive language training is provided to the user to improve the proper pronunciation of language (col. 1, lines 27-33).

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6. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Minematsu (US 6,249,763) in view of Shpiro (US 5,766,015) as applied to claim 30 above, and further in view of the applicant admitted prior art (Page 29).

As per claim 32, Minematsu teaches, "outputting an error indication in response to a match with a known audible sound corresponding to a known mispronunciation" (col. 21, line 30 to col. 22, line 28).

Minematsu does not teach that the interactive program using Lessac System. However, Lessac teaches above limitation (Page 29) as acknowledged by the applicant. It would have been obvious to one of ordinary skill in the art at the time of the invention to use Lessac system so as to substantially improve the pronunciation.

7. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Minematsu in view of Shpiro as applied to claim 33 above.

As per claim 34, Minematsu teaches his invention can provide an interactive program based on the error found in the pronunciation and also one can train the system to know the pattern of use's pronunciation (col. 24, line 59 to col. 25, line 18) but does not explicitly teach to perform the interactive training program based on user option to elect. It would have been obvious to one of the ordinary skill in the art at the time of the invention to give an option to the user whether he wants to learn the pronunciation or not so that the system will save time by not train a person who does not want to get training.

Response to Arguments

8. The applicant argues: "neither Minematsu nor Shpiro teaches or suggests the use of combination of two pronunciation database one of which contains proper pronunciations from a speaker who normally pronounces the sounds correctly and the other of which contains mispronunciations from a different speaker".

The examiner disagrees with the applicant's assertion because Minematsu teaches a proper correct pronunciation word database known as candidate word part (col. 11, lines 11-26) and digitizing said proper pronounced known audible sound to form a database (col. 13, lines 2-12); but does not explicitly teach having a person, who normally speaks said known audible sounds properly to create a database of correct proper pronunciation. However, Shpiro teaches, having a person, who normally speaks said known audible sounds properly to create a database of correct proper pronunciation (col. 4, lines 1-46, particularly reads on "expected audio response reference database").

9. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, suggestion, or

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motivation to do so found in the references themselves as "it would have been obvious to one ordinary skill in the art at the time of the invention to create a database correspond to mispronunciation using a person's speech who speak the language properly because the invention would indicate type of pronunciation error based on the error an interactive language training is provided to the user to improve the proper pronunciation of language (col. 1, lines 27-33)".

10. The applicant further argues: "Shpiro does not correct the deficiencies of Minematsu".

In response to applicant's argument that Shpiro does not correct the deficiencies of Minematsu, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Contact Information

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Abul K. Azad** whose telephone number is **(703) 305-3838**.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richemond Dorvil**, can be reached at **(703) 305-9645**.

Any response to this action should be mailed to:

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

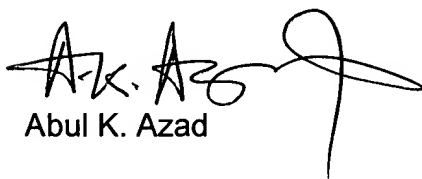
Or faxed to:

(703) 872-9314

(For informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center's Customer Service Office at telephone number **(703) 306-0377**.

A handwritten signature in black ink, appearing to read 'A.K. Azad', with a long, sweeping horizontal stroke extending to the right.

Abul K. Azad

August 20, 2004